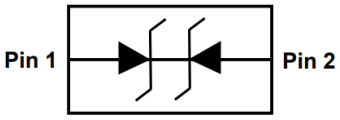
SSCE3V332N1

Ultra-low Capacitance Bidirectional Micro Packaged TVS Diodes for ESD Protection

Description

The SSCE3V332N1 is a bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The SSCE3V332N1 has an ultra-low capacitance with a typical value at 0.2pF, and complies with the IEC 61000-4-2 (ESD) with ±25kV air and ±20kV contact discharge. It is assembled into a DFN1006-2L leadfree package. The small size, ultra-low capacitance and high ESD surge protection make SSCE3V332N1 an ideal choice to protect cell phone, digital video interfaces and other high speed ports.

PIN configuration



Top view

Marking

Feature

- 84W peak pulse power (t_P = 8/20μs)
- DFN1006-2L Package
- Working voltage: 3.3V
- Low clamping voltage
- Low capacitance
- Low leakage current
- RoHS compliant transient protection for high-speed data lines to
  -IEC61000-4-2(ESD)±25kV(air), ±20kV(contact)

Applications

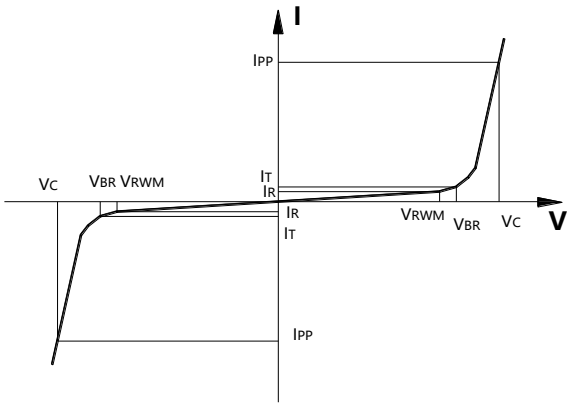
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports

Mechanical data

- Lead finish:100% matte Sn(Tin)
- Package: DFN1006-2 (1.0×0.6×0.5mm)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 3 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness: ≤3mil

- **Electronic Parameter**

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance



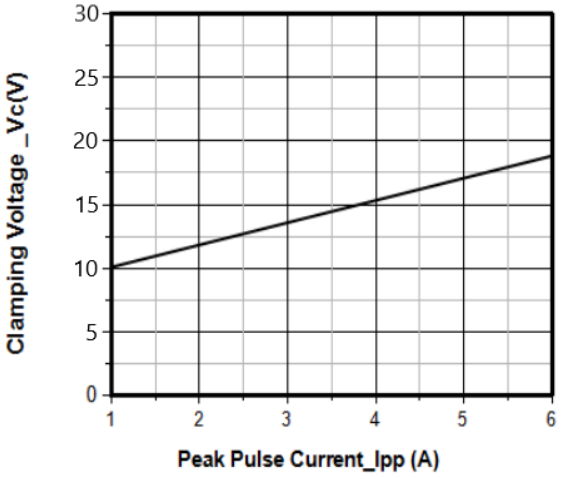
- **Absolute maximum rating @TA=25℃**

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20μs）	P_{PP}	84	W
Peak Pulse Current（8/20μs）	I_{PP}	4	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	20 25	KV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

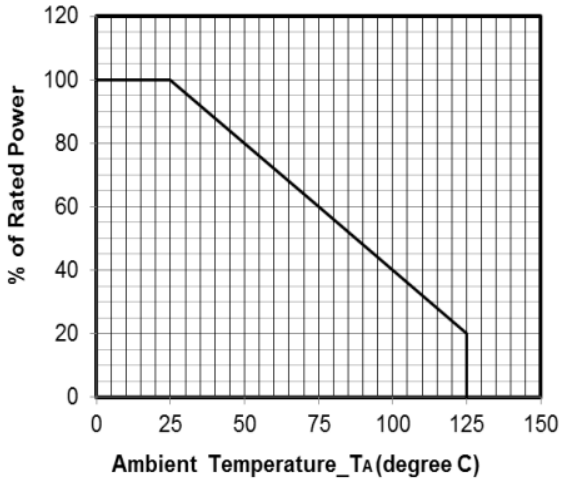
- **Electrical Characteristics @TA=25℃**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	4.8			V
Reverse Leakage Current	I_R	V_{RWM} =3.3V			0.1	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs		10		V
Clamping Voltage	V_C	I_{PP}=4A, t_P = 8/20μs		19	21	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz		0.2	0.35	pF

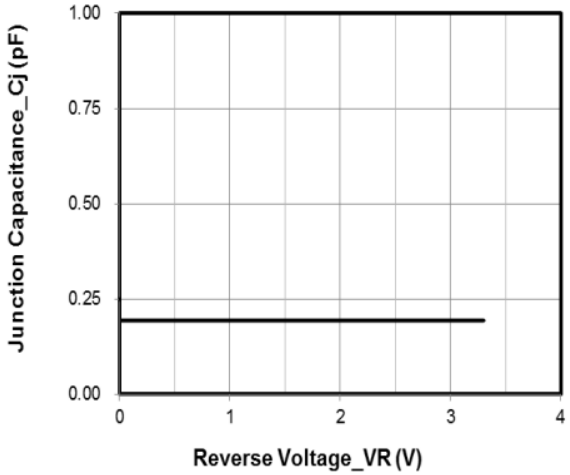
- **Typical Performance Characteristics**



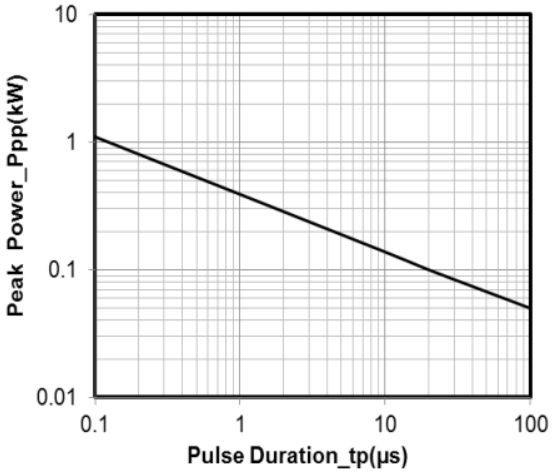
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



Junction Capacitance vs. Reverse Voltage



Peak Pulse Power vs. Pulse Time

● Package Information

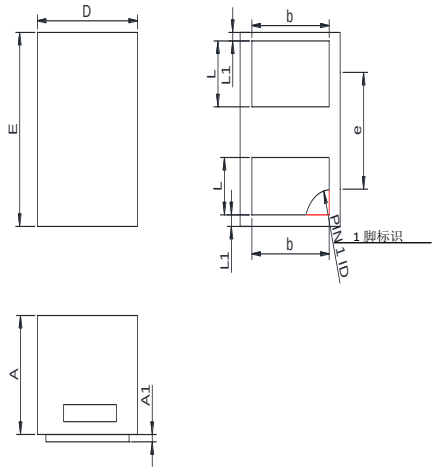
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V332N1	DFN1006-2L	10000	7 Inch

Mechanical Data

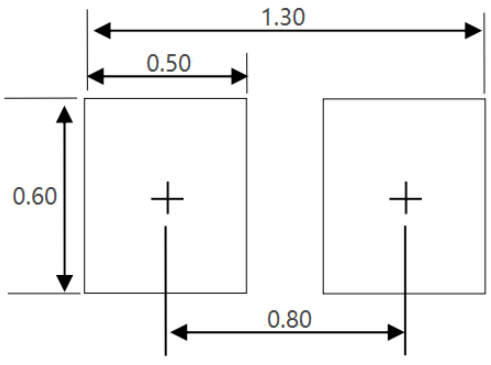
Case: DFN1006-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.45	0.55
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.45	0.60
e	0.65TYP	
L	0.2	0.3
L1	0.05REF	

Recommended Pad outline



Unit:mm

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